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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/018,606

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Akira Okamoto

A-417

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7590

08/23/2004

DELLETT AND WALTERS

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EXAMINER

POKER, JENNIFER A

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/018,606

Applicant(s)

OKAMOTO ET AL.

Examiner

Jennifer A. Poker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 16, 2004 has been entered. Claims 1-26 are pending and are being examined.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 13, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 13 the applicant states, "...it is possible to change at least one device constant of a resistor, a capacitor, and an inductor..." It was not understood what the applicant meant by this limitation. Furthermore, it was not understood what the applicant meant by "to change at least one device constant". Because claims 15 and 16 were dependant on claim 14 incorporating similar limitations, those claims were not understood. Correction or clarification is required.

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4. Claims 15 and 16 recite the limitations "the capacitor" "the resistor" respectively. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4-7, 9, 10, 12, 13, 17-22, 24, and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,501,363 to Hwu, et al.

Regarding claims 1 and 13, Hwu, et al, discloses a transformer comprising:

- (1) two conductors (102, 104), one on a first plane and the second positioned on a second plane being separated by a dielectric layer (abstract; figure 1A);
- (2) a ground layer (105) located below both conductors (figure 1A);
- (3) a conductive end (106) of the first conductor (102) extending (110) between the second conductor and the ground layer (figure 1A);
- (4) an impedance load connected to the end of the second conductor where the impedance varies over a wide range of frequencies (column 6; lines 26-27).

Although Hwu, et al, discloses a transformer and the applicant discloses an inductor, it is known to those skilled in the art that when multiple conductive paths are provided, an element can operate as a transformer.

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Hwu, et al, discloses the claimed invention except for stating that one conductor ~~is~~ used as an inductor conductor. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus/structure from a prior art apparatus/structure satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987)*.

Further regarding claim 13, applicant discloses the claimed invention except for stating specifically that "...it is possible to change one device constant..." Hwu, et al, discloses and illustrates the structural equivalence of that of the applicant; therefore it is capable of performing the same function.

Regarding claims 4 and 17, Hwu, et al, further illustrates in figure 1A that the two conductors have substantially the same shape.

Regarding claims 5, 6, 9, 10, 18-20, and 22, Hwu, et al, discloses the claimed invention including one end of one conductor being connected to one end of the second conductor. He claimed invention is disclosed except for the specific shapes of the conductors. It would have been an obvious matter of design choice to utilize different shapes, since applicant has not disclosed that long shapes, circular shapes, spiral shapes, linear shapes, or meander shapes solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any shape.

Regarding claims 7 and 21, Hwu, et al, further illustrates in Figure 1A that the conductors are spiral shaped, having more than one turn and having an end of one conductor being connected to an end of the second conductor.

Regarding claims 12 and 24, Hwu, et al, further illustrates in figures 1A and 1B that there is a means for inductance  $L_1$  &  $L_2$  and a means for capacitance  $C_1$  &  $C_2$ .

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7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,501,363 to Hwu, et al, in view of U.S. Patent Number 5,583,474 to Mizoguchi, et al.

Hwu, et al discloses the claimed invention except for the metal layers.

Mizoguchi, et al, discloses a planar magnetic element comprising a semiconductor substrate a first magnetic layer arranged over the substrate, a first insulation layer arranged over the first magnetic layer, a planer coil formed of a conductor, having a plurality of turns, arranged over the first insulation layer, a second insulation layer arranged over the planar coil, and a second magnetic layer arranged over the second insulation layer.

One skilled in the art, at the time the invention was made would have found it obvious to combine the teachings of Hwu, et al, with the teachings of Mizoguchi, et al, in order to create a planar inductive device incorporating magnetic or metal layers as close to the coils as possible so that the layers may serve as cores.

Hwu, et al, in view of Mizoguchi, et al, discloses the claimed invention except for stating that the metal layers were patterned. Even though the claim is limited by and defined by the recited process, the determination of patentability of the product is based on the product itself, and does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

8. Claims 3, 8, 11, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,501,363 to Hwu, et al, in view of Applicant's Own Admission.

Hwu, et al, further illustrates the use of spiral shaped conductors with more than one turn wherein the top conductor's inner end passes between the other conductor and the ground layer (figure 1A and figure 2A).

Hwu, et al, discloses the claimed invention except for opposite ends of the conductors being connected.

Applicant admits on page 5, last full paragraph, and on page 6, lines 1-3, that it has been known in the art to connect two by connecting an inner end of one conductor with an outer end of another conductor in order to secure a larger inductance.

One skilled in the art, at the time the invention was made would have found it obvious to combine the inner end of one conductor with an outer end of a second conductor for the purposes of securing a larger resistance.

9. Claims 16, 15, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,501,363 to Hwu, et al, in view of U.S. Patent Number 5,461,353 to Eberhardt.

Regarding claims 15 and 26, Hwu, et al, discloses the claimed invention except for the use of an FET.

Eberhardt discloses an inductor wherein the inductor/coil's inductance value is adjustable by a field-effect transistor (FET) or other type of appropriate transistor as known in the art is used to automatically switch the inductance value of an inductor (figure 4; column 4, lines 12-17).

Regarding claim 15, Hwu, et al, in view of Eberhardt discloses the claimed invention except for the use of a capacitance diode. It would have been an obvious matter of design choice to utilize a form of capacitance, such as a diode, since applicant has not disclosed that that capacitance diode solves any stated problem or is for any particular purpose, and it appears that the invention would

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perform equally well with a resistor, since it is well known to one of ordinary skill in the art that resistors and capacitors both utilized for impedance.

### *Response to Arguments*

10. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.


### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 571-272-1997. The examiner can normally be reached on 4:30-3:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jap  
August 16, 2004

  
**ELVIN ENAD**  
**SUPERVISORY PATENT EXAMINER**  
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8/16/04